



Course specification

University/Academy: Damnhour

Faculty/Institute: Science

Department: Zoology

1. course Data:					
Course code: Zool 403	Course title: Cytology and Cytochemistry	Academic year:2010/2011 level: 1 st semester fourth year			
Specialization: Special zoology	No. of instructional units:	lecture <table border="1"><tr><td>3hrs/ week</td></tr></table>	3hrs/ week	practical <table border="1"><tr><td>4hrs/ week</td></tr></table>	4hrs/ week
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2. course Aim	The overriding aim for all awards in the course is to provide knowledge on cell biology with particular emphasis on the cell structure and function; cell regulation; specific properties of tumor cell; cells with specialized functions; methods for cytochemistry techniques.
3. Intended learning outcome	
a) Knowledge and understanding	A1. Recognize an understanding of the structure and function of the cell. A2. List different types of cytochemical technique.
b) Intellectual skills	By the end of the course student will have the ability to: B1. Choice the cytochemical methods to determine the chemical composition of the cells B2. Apply the basic skill of seeking, handling and interpreting information to awards the Creation of new knowledge. B3. Capable of carry out critical review of the



	<p>literature and to be aware of alternative approaches to study of the cell biology.</p>
<p>c) Professional skills</p>	<p>By the end of the course student will have the ability to:</p> <p>C1. Elicit the different cell structures under the electron microscope.</p> <p>C2. use their practical skills to understand the scientific approach in cytology and cytochemistry.</p> <p>C3. Manage skills that enable a harmonic working group.</p>
<p>d) General skills</p>	<p>At the end of this course students will have:</p> <p>D1: Communicate with each other for covering both written & oral exam</p> <p>D2: Exchange ideas, principles and information by oral, written and visual means.</p> <p>D3: Work effectively both in a team and independently.</p>
<p>4. course content</p>	<ul style="list-style-type: none"> • Cell membrane: cell junctions, endocytosis & exocytosis.----- <p>Mitochondria: electron transport chain, mitochondrial protein synthesis, mitochondrial cytopathy syndrome.</p> <p>Golgi apparatus: structure and function.</p> <ul style="list-style-type: none"> • Lysosomes <p>Rough endoplasmic reticulum & smooth endoplasmic reticulum.</p> <ul style="list-style-type: none"> • Cytoskeleton • Nucleus: <p>Ultrastructure of the nucleus, Function of the nucleus, Protein synthesis, Cell Division, Cell Signaling Cells with specialized functions.</p> <ul style="list-style-type: none"> • Specific properties of tumor cell.



	<ul style="list-style-type: none"> • Methods for cytochemical techniques: • Methods for detection of Carbohydrates <p>Methods for detection of lipids</p>												
5. Teaching and learning methods	<ol style="list-style-type: none"> 1. Lecture. 2. Practical. 3. Contact hours. 4. Problem-Based learning. 5. Encourage students to use online and library resources. 												
6. teaching and learning methods for students with special needs	-----												
7. Student Assessment													
a. Procedures used:	<p>Final-Term Examination: to assess student writing and drawing ability expressing his/her understanding of Cell Biology and Cytochemistry</p> <p>Class activities (reports, discussions, practical...etc): to assess the student intellectual, professional, practical and general and transferable skills</p>												
b. Schedule:	<p>Assessment 1 Practical Examination Week 12</p> <p>Assessment 1 Final-Term Examination Week14</p>												
c. Weighing of Assessment:	<table border="0"> <tr> <td>- Mid-Term Examination</td> <td>15</td> <td>0.0%</td> </tr> <tr> <td>Final-Term Examination</td> <td>150</td> <td>75%</td> </tr> <tr> <td>Oral Examination</td> <td></td> <td>0.0%</td> </tr> <tr> <td>Practical Examination</td> <td>25</td> <td>25%</td> </tr> </table>	- Mid-Term Examination	15	0.0%	Final-Term Examination	150	75%	Oral Examination		0.0%	Practical Examination	25	25%
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8. List of Textbooks and References:	<ul style="list-style-type: none">• - The Cell a Molecular Aproach, Geoffrey M. Cooper, second <u>ed</u>, Sinauer Associates, Inc.• Histochemistry Theoretical and Applied, Pearse A Everson J. & A. Chrchill Ltd.									
a. Course Notes	-----									
b. Required Books (Textbooks)	-----									
c. Recommended Books	Basic Histology, Carlos Junqueira, Jose Careiro, Robert O. Kelley Prentice-Hall International, Inc.									
d. Periodicals, web sites,...,etc	www.nature.com/ncb/index.html									

Course Instructor: Dr. Mohamed El Gerbid

Head of Department: Prof . Karoline Kamel Abdel Aziz

Date: -----/-----/-----